

## PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING

To:

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PCT

WRITTEN OPINION

(PCT Rule 66)

Date of mailing  
(day/month/year) 28 OCTOBER 2004 (28.10.2004)

Applicant's or agent's file reference  
PCT203-0011

REPLY DUE within 1 months from  
the above date of mailing

International application No.

PCT/KR2003/000542

International filing date (day/month/year)

19 MARCH 2003 (19.03.2003)

Priority date(day/month/year)

16 AUGUST 2002 (16.08.2002)

International Patent Classification (IPC) or both national classification and IPC

IPC7 H04B 1/38

Applicant

PHICOM CORPORATION et al

1. This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion  
 II ☐ Priority  
 III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  
 IV ☐ Lack of unity of invention  
 V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement  
 VI ☐ Certain documents cited  
 VII ☐ Certain defects in the international application  
 VIII ☒ Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d)

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3  
 For the form and the language of the amendments, see Rules 66.8 and 66.9

Also For an additional opportunity to submit amendments, see Rule 66.4  
 For an examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis  
 For an informal communication with the examiner, see Rule 66.6

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 06 DECEMBER 2004 (06.12.2004)

Name and mailing address of the IPEA/KR



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## WRITTEN OPINION

International application No.

PCT/KR2003/000542

## I. Basis of the opinion

## 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed
- ☐ the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the claims:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, as amended (together with any statement) under Article 19  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the drawings:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
 pages \_\_\_\_\_, as originally filed  
 pages \_\_\_\_\_, filed with the demand  
 pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language English which is

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☒ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheet/fig. \_\_\_\_\_

5.

- ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed."

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## V. Reasoned statement under Rule 56.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-6	YES
	Claims		NO
Inventive step (IS)	Claims	1-6	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-6	YES
	Claims		NO

## 2. Citations and explanations

Reference is made to the following documents:

D1 = KR 10-2000-52066 A (2000.08.16)

D2 = JP 10051876 A (1998.02.20)

#### Novelty

Neither D1 nor D2 reveals this invention's composition which comprises a yoke, a magnet, an upper plate, a mastoid, an acoustic vibrating plate, an auxiliary vibrating plate, a voice coil and a front cap. Therefore, the invention according to claims 1-6 is considered to be novel.

#### Inventive step

Claims 1-6 relate to a subminiature bone conduction speaker using a plate capable of vibrating the skull bone and stimulating the auditory nerve so that sound can be heard and a mobile phone having the subminiature bone conduction speaker can be used.

D1 discloses a device for setting a bone conduction oscillator to diversify the application for people who have difficulty in hearing because of inner ear problems, by attaching a bone conduction oscillator to a headband or a hat.

D2 teaches a bone vibration microphone formed in a banana shape having a recessed part, a movable means and a vibration response means.

Comparing the present invention according to claims 1-6 with either D1 or D2, they are similar in that they are related to a bone conduction speaker which directly vibrates the skull bone and stimulates the auditory nerve for hearing the sound. But, the composition of the invention is different from that of either D1 or D2 because neither D1 nor D2 reveals this invention's composition which comprises a yoke, a magnet, an upper plate, a mastoid, an acoustic vibrating plate, an auxiliary vibrating plate, a voice coil and a front cap.

Therefore, claims 1-6 of this invention are considered to involve an inventive step.

#### Industrial Applicability

The subject matter of claims 1-6 fulfills the requirements of Article 33(4) PCT because it is useful.

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**VIII. Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

In Claim 1 of this invention, the expression "A subminiature bone conduction speaker using a vibrating plate comprising" is so obscure that it is not clear which one of the invention or vibrating plate comprises a body, a yoke, a ring type magnet etc.